



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/715,760	11/18/2003	Gary L. Karr	MDM2-002	5261

7590

11/10/2005

Gerald L. Smith  
Mueller and Smith, LPA  
7700 Rivers Edge Drive  
Columbus, OH 43235

EXAMINER
----------

DEL SOLE, JOSEPH S

ART UNIT	PAPER NUMBER
----------	--------------

1722

DATE MAILED: 11/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/715,760

Applicant(s)

KARR ET AL.

Examiner

Joseph S. Del Sole

Art Unit

1722

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) 22-28 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☒ Claim(s) 18-21 is/are objected to.
- 8) ☒ Claim(s) 1-28 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                                                                              |                                                                                         |
|----------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                                                  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                                         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>2/26/04</u> . | 6) <input type="checkbox"/> Other: ____.                                                |

**DETAILED ACTION**

***Election/Restrictions***

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-21, drawn to a combination, classified in class 425, subclass 133.1.
  - II. Claims 22-28, drawn to a subcombination, classified in class 425, subclass 466.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and II are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the combination can function to form dual walled tubes of constant thickness (therefore without a control ring to alter annular cross section). The subcombination has separate utility such as an apparatus for forming single-walled tubing of altering cross section.
3. Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group II, restriction for examination purposes as indicated is proper.
4. During a telephone conversation with Ms. Diane Burke on 11/4/05 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-21.

Art Unit: 1722

Affirmation of this election must be made by applicant in replying to this Office action.

Claims 22-28 are withdrawn from further consideration by the examiner, 37

CFR 1.142(b), as being drawn to a non-elected invention.

5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1-6, 10-11 and 15-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is vague and indefinite because “an outer wall forming treatment assembly including an inner wall homogenizer” at lines 17-18 is unclear. Line 5 already recites an outer wall forming treatment assembly having an outer wall homogenizing assembly.

Claim 3 is vague and indefinite because “one or more mutually aligned said outer wall and inner wall communication regions” is unclear. The usage of “said” makes it unclear whether it was intended to have previously claimed any communication regions.

Claim 10 recites the limitation "said enclosed space" in line 6. There is insufficient antecedent basis for this limitation in the claim.

Claim 17 is vague and indefinite because it is unclear how the second heater assembly can have a relationship with the second die lip (the second die lip being part of the first homogenizer assembly).

***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 1-3 and 6 are rejected under 35 U.S.C. 102(e) as being anticipated by Neubauer (6,616,437).

Neubauer teaches a die apparatus having an axis and extending between a die entrance and a die exit, and configured to form corrugated pipe from thermoplastic material in association with transported wall mold sets, defining a wall forming tunnel (Figs 1 and 3) having an outer wall forming treatment assembly including an outer wall homogenizing assembly configured to receive a material and having an annular outer wall homogenizing exit through which the material is expressible (Fig 1, # 14 and Fig 2); an annular delivery channel spaced from and extending along the die axis having an

Art Unit: 1722

outwardly disposed surface, configured in material transfer relationship with the outer wall homogenizer exit and extending a reservoir distance to an annular outer wall nozzle through which the material is expressible into wall profile defining relationship with the mold sets (Fig 1, at #s 4 and 24); an extender conduit having an input configured for receiving the material under pressure, having a surface extending in spaced relationship from the annular delivery chamber to a feed outlet on the vicinity of the outer wall annular nozzle and disposed generally about the axis (Fig 1, #s 17b, 20 and 21); an outer wall forming treatment assembly including an inner wall homogenizer assembly configured to receive the material from the extender conduit feed outlet and having an annular inner wall homogenizer exit through which the material is expressible and in material transfer relationship with an annular inner wall nozzle located axially downstream from the outer wall annular nozzle through which the material is expressible to engage an inner surface of inwardly depending valleys of the outer wall material formed within the forming tunnel defining mold sets (Fig 1, the spiral connected to #20); the outer wall homogenizer assembly includes an outer wall cutting assembly having an input assembly for receiving the material and spaced radially disposed outer wall distribution paths of given radial pattern having outer wall path outlets, and an outer wall spiral channel assembly having inputs in material flow relationship with the outer wall path outlets and extending to define the outer wall homogenizer exit (Fig 2); the inner wall homogenizer assembly is located axially downstream from the outer wall homogenizer assembly to define a generally enclosed space with the annular deliver channel and includes an inner wall cutting assembly having an input assembly coupled

Art Unit: 1722

in material transfer relationship with the extender conduit feed outlet and having spaced radially disposed inner wall distribution paths one or more of which is radially aligned with one or more of the outer wall distribution paths to define axially aligned outer wall and inner wall communication regions, the inner wall distribution paths extending to inner wall path outlets, and an inner wall spiral channel assembly having inputs in material flow relationship with the inner wall path outlets and extending to define the inner wall homogenizer exit (Fig 1, the spiral connected to #20 which is similar to the spiral of Fig 2); one or more mutually axially aligned outer wall and inner wall communication regions are respectively configured with mutually axially aligned outer wall and inner wall communication ports (Fig 1); and the generally annular shaped region between the outer wall nozzle and the inner wall nozzle is configured with one or more access ports communicable with the generally enclosed space (Fig 1).

10. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Lupke (4,534,923).

Lupke teaches a die apparatus having an axis and extending between a die entrance and a die exit, and configured to form corrugated pipe from thermoplastic material in association with transported wall mold sets, defining a wall forming tunnel (Fig 1) having an outer wall forming treatment assembly including an outer wall homogenizing assembly configured to receive a material and having an annular outer wall homogenizing exit through which the material is expressible (Fig 1, the path for #16); an annular delivery channel spaced from and extending along the die axis having an outwardly disposed surface, configured in material transfer relationship with the outer

Art Unit: 1722

wall homogenizer exit and extending a reservoir distance to an annular outer wall nozzle through which the material is expressible into wall profile defining relationship with the mold sets (Fig 1, the path of #16 towards #18); an extender conduit having an input configured for receiving the material under pressure, having a surface extending in spaced relationship from the annular delivery chamber to a feed outlet on the vicinity of the outer wall annular nozzle and disposed generally about the axis (Fig 1, the features within and upstream of #32); an outer wall forming treatment assembly including an inner wall homogenizer assembly configured to receive the material from the extender conduit feed outlet and having an annular inner wall homogenizer exit through which the material is expressible and in material transfer relationship with an annular inner wall nozzle located axially downstream from the outer wall annular nozzle through which the material is expressible to engage an inner surface of inwardly depending valleys of the outer wall material formed within the forming tunnel defining mold sets (Fig 1, the feature below/ adjacent to #30).

11. Claims 7-10 and 12-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Lupke et al (4,510,013).

Lupke et al teach a die apparatus having an axis and extending between a die entrance and a die exit and configured for forming corrugated pipe from thermoplastic material in association with transported wall mold sets defining a wall forming tunnel (Fig 1); an outer wall forming treatment assembly adjacent the die entrance including a first homogenizer assembly having a first input configured to receive the material under pressure and having an annular outer wall homogenizer exit disposed about the axis



Art Unit: 1722

through which the material is expressible (Fig 2a, #24); a first delivery channel spaced from and extending along the axis, having an outwardly disposed surface, configured in material transfer relationship with the outer wall homogenizer exit and extending to an annular radially outwardly disposed first and second die lip defining outer wall nozzle through which the material is expressible into wall profile defining relationship with the mold sets (Fig 2a, at #24); an extender (Fig 2a, #28) conduit having an input adjacent the die entrance configured for receiving the material under pressure, having an extender surface, extending generally within and spaced from the first deliver chamber to a feed outlet; an inner wall forming treatment assembly including a second homogenizer assembly configured to receive the material from the feed outlet and having an annular inner wall homogenizer exit disposed about the axis through which the material is expressible (Fig 2a, at #25); a second delivery channel spaced from and extending along the axis, configured to receive the material from the inner wall homogenizer exit and extending to an annular, radially outwardly disposed third and fourth die lip defining inner wall nozzle through which the material is expressible to engage an inner surface of the outer wall material formed within the wall forming tunnel defining mold sets (Fig 2a, #25); a first heater (Fig 2a, #65) assembly having one or more heater components in thermal transfer relationship with the first deliver chamber outwardly disposed surface; a second heater assembly having one ore more heater components in thermal transfer relationship with the extender conduit extender surface (Fig 3a, #s 77 and 78); the inner wall treatment assembly is axially spaced downstream from the outer wall forming treatment assembly to define a generally enclosed space

Art Unit: 1722

within the first delivery channel within which the extender conduit is located, the enclosed space being effective to provide a radiative thermal transfer to the material within the first deliver channel (Fig 2a); the outer wall treatment assembly and the inner wall treatment assembly are configured having a plurality of mutually axially aligned access ports configured to receive and support axially disposed access conduits communicable between the die entrance and the die exit (Fig 2a); the inner wall forming treatment assembly and the second delivery channel are located axially forwardly from the outer wall nozzle to define an access region and the inner wall treatment assembly is configured with one or more access ports communicable between the access region and the enclosed space (Fig 2a); the outer wall treatment assembly is configured to receive a first material and the inner wall treatment is configured to receive a second material (Fig 2a); an input manifold coupled with the outer wall treatment assembly, having a first input port configured to receive the material under pressure from a first extruding source and effect its flow along a first path to the extender conduit input, and having a second input port configured to receive the material under pressure from a second extruding source and effect its flow along a second path to the first homogenizer first input (Fig 2a); the input manifold second path is disposed outwardly from the first path and is configured as a preliminary material cutting assembly (Fig 2a); a cylindrically shaped cooling sleeve (Fig 1a, #72) disposed about the axis, having an outer cooling surface engageable in slidable cooling relationship with material expressed from the inner wall nozzle, supported from an annulus shaped inward support ring having a plurality of spaced apart rearwardly extending abutment tabs each having an abutting

surface abutably engaging a surface of the second delivery chamber inner wall nozzle fourth die lip, the abutment tabs being of number and abutting surface area effective to minimize heat transfer from the inner wall nozzle to the cooling sleeve (Fig 2a)

***Allowable Subject Matter***

12. Claims 18-21 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

13. Claims 4-5, 11 and 15-17 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

14. The following is a statement of reasons for the indication of allowable subject matter: the prior art of record fails to teach or suggest a die apparatus having transported mold sets, inner and outer wall forming treatment assemblies, inner and outer wall homogenizing assemblies, an extender conduit and one or more communications conduits extending between communication ports of the inner and outer walls as set forth in claim 5. The prior art of record also fails to teach or suggest a die apparatus having transported mold sets, inner and outer wall forming treatment assemblies, inner and outer wall homogenizing assemblies, an extender conduit and any of a) a generally semi-cylindrically shaped shield removably mounted over the vertically upwardly disposed portion of an access region; b) a second heater assembly in thermal transfer relationship with the second homogenizer assembly configured with electrical leads extending from the enclosed space and through one or more access

Art Unit: 1722

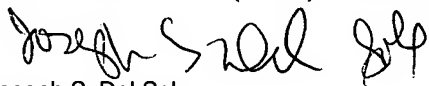
ports; c) heater components axially disposed in sequence along the extender conduit extender surface; or d) the extender conduit supported by a first flange coupled within the enclosed space with the outer wall treatment assembly and by a second flange coupled within the enclosed space with the inner wall treatment assembly and the second heater assembly having a heater component in thermal transfer relationship with the first flange and the second flange as set forth in the claims.

### ***Correspondence***

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Joseph S. Del Sole whose telephone number is (571) 272-1130. The examiner can normally be reached on Monday through Friday from 8:30 A.M. to 5:00 P.M.

If attempts to reach the Examiner by telephone are unsuccessful, Mr. Duane Smith can be reached at (571) 272-1166. The official fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306 for both non-after finals and for after finals.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from the either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on the access to the Private PAIR system, contact the Electronic Business Center (EBC) at 886-217-9197 (toll-free).



Joseph S. Del Sole  
November 8, 2005